

CLAIMS

1. A scroll compressor wherein a fixed scroll having a fixed scroll wrap on a fixed mirror plate and an orbiting scroll having an orbiting scroll wrap on an orbiting mirror plate are combined with each other to form a plurality of compressed chambers, a back pressure chamber is provided on a surface on the opposite side from said orbiting scroll wrap surface of said orbiting scroll, said back pressure chamber is divided by an annular seal into an inner region and an outer region, a lubricant oil in a discharge pressure state is supplied to said inner region of said annular seal, a portion of the lubricant oil is decompressed at a narrowed portion and supplied to said outer region, the lubricant oil in the outer region is supplied to a suction space, pressure in said outer region is set to a predetermined pressure P_m between a suction pressure P_s and a discharge pressure P_d , thrust force is applied to a back surface of said orbiting scroll, thereby bringing said orbiting scroll into contact with said fixed scroll, rotation of said orbiting scroll is restrained by a rotation-restraint member, said orbiting scroll is allowed to orbit, thereby moving said compressed chamber toward a center of scroll while reducing its volume, refrigerant gas is sucked into said compressed chamber and compressed.

a ratio (d/D) of a diameter D of said orbiting mirror plate of said orbiting scroll and an outer diameter d of said annular seal is set greater than 0.5.

2. The scroll compressor according to claim 1, wherein a back pressure ΔP ($=P_m-P_s$) applied to said outer region divided by said annular seal is set such that a ratio ($\Delta P/P_o$) of the back pressure ΔP and a saturation vapor pressure P_o when said refrigerant gas is at $0^\circ C$ is substantially a constant value and 0.2 or lower.

3. The scroll compressor according to claim 1 or 2, wherein

said refrigerant gas sucked into said suction space includes liquid refrigerant having dryness parameter of 0.5 or less.

4. The scroll compressor according to claim 1 or 2, wherein carbon dioxide is used as said refrigerant.